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### Environmental Quality Commission

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My fellow Kentuckians,

During the Environmental Quality Commission's (EQC) May 2007 meeting on the topic of *Energy Issues in the Commonwealth*, citizens posed the following questions/concerns regarding various energy topics.

1. **Does coal liquefaction make good business sense?** – In July 2007 the University of Kentucky's Center for Applied Energy Research released the study *Technologies for Producing Transportation Fuels, Chemicals, Synthetic Natural Gas and Electricity From the Gasification of Kentucky Coal*. Statements relevant to the economic implications of indirect coal liquefaction are as follows.

- *"This feasibility study has shown that low-sulfur ultra clean diesel can be produced from Eastern and Western Kentucky coals using existing technologies for between \$49.96 and \$53.20 per barrel on a crude oil equivalent basis. This price is currently competitive with today's prices of crude oil and petroleum refined liquid fuel products. [For larger scale coal to liquid plants, economies of scale bring down costs to \$45.50, \$44.00 and \$43.00 per barrel for 30,000, 60,000 and 100,000 barrel per day plants, respectively.]"*
- *"Where carbon capture is required there is a small efficiency penalty of about 2 percent and a cost of product penalty of about 3 percent. The efficiency penalty is small because, even in the cases where carbon capture is not required, the carbon dioxide still has to be removed. The only difference is that the carbon dioxide has to be compressed to 2,000 psi when capturing for subsequent sequestration is necessary. This additional cost does not include the actual cost of sequestering this compressed carbon dioxide. Ideally this carbon dioxide could be used for enhanced oil recovery if there are suitable opportunities within a feasible distance from the plant".*
- *"As coal-derived liquids capture a greater and greater share of the domestic market, it will lower oil import requirements and improve the US balance of trade. Income realized by producers of synthetic fuels (as well as their suppliers and employees) stays within Kentucky and the United States. These direct benefits multiply throughout the economy. Lower prices for a major factor of production translate to lower inflation and higher gross domestic product. Homeland security is*

*enhanced by less dependence on foreign petroleum, particularly from unstable regions of the world.”*

2. **What happens to the residual water upon completion of the coal liquefaction process?** - According to the above-mentioned study from the Center for Applied Energy Research, the vast majority of water utilized during the indirect coal liquefaction process is transferred to the atmosphere as hydrogen or lost as steam. All water left in liquid form (make-up water) is recycled and used again. Only small discharges are possible from boiler blow-down, and this type of discharge is regulated.
3. **The EQC was asked to support House Bill 385.** This is an act relating to surface mining. House Bill 385 would *“amend KRS 350.450 to change requirements relating to restoration to original contour of surface mines, and to require that when all requirements of the amended KRS 350.450 are met that the configuration requirements of KRS 340.410 and 350.445 may be altered, but that overburden must be returned to mine area to the maximum extent possible and that other overburden is to be disposed of in permitted areas or previously mined areas, and that no overburden is to be disposed of in the waters of the Commonwealth; amend KRS 350.440 to provide that no spoil be disposed of in the waters of the Commonwealth, and that any spoil not be returned to mine area be disposed of only in previously disturbed areas on lands eligible for reclamation under the abandoned mine land program”* (<http://www.lrc.ky.gov/record/07rs/Hb385.htm>).

Simply stated, this bill would require that overburden from strip mining be returned to the mine area to the maximum extent possible and that no overburden may be disposed of in the waters of the commonwealth. This bill ended the session in the House Natural Resources and Environment Committee.

The EQC is currently reviewing the version of House Bill 385, as it read on February 12, 2007. If this bill is reintroduced into the appropriate legislative committee during the January 2007 session, the EQC will review the new language and determine an appropriate course of action.

4. **The EQC was asked to support House Bill 5.** This is an act relating to energy independence. House Bill 5 would *“Create a new section of KRS Chapter 45A to encourage the Finance and Administration Cabinet to develop a strategy to utilize the ENERGY STAR system in new construction designs for proposed state facilities and measure the energy efficiency of existing facilities; direct the Finance and Administration Cabinet to develop a strategy to replace state-owned passenger vehicles and light trucks with alternative fuel vehicles; require the Cabinet to report to the Legislative Research Commission on or before December 31, 2007; create new sections of KRS Chapter 139 to create an exemption for tangible personal property used in the construction, repair, renovation, or upgrade of an "alternative fuel or renewable energy facility"; authorize a sales and use tax refund for machinery and equipment purchased by a manufacturer for an "energy efficiency project", define terms; require prior approval from the*

*Department of Revenue; provide that approvals cannot be granted before July 1, 2008; require reporting to the Department of Revenue, and the department to report to LRC; amend KRS 141.0405 to allow an alternative fuel or renewable energy facility to qualify for the coal incentive tax credit for tax periods beginning after December 31, 2008 and ending before January 1, 2021; amend KRS 154.22-010, 154.23-010, and 154.28-010 to allow an alternative fuel or renewable energy facility to qualify for various economic development incentives for tax years beginning after December 31, 2008; creates a new section of KRS Chapter 152 to direct the Office of Energy Policy to develop a list of potential sites suitable for development of alternative fuel or renewable energy facilities; provide that state funds may be expended for preliminary environmental and baseline assessments, inventories, and other activities on or for potential sites”(http://www.lrc.ky.gov/record/07rs/Hb5.htm).*

Simply stated, this bill originally created various tax incentives and credits for coal-to-liquids through gasification and for renewable energy used for electricity generation. After the bill passed the House, it was changed considerably in the Senate to create an academy of mathematics and science at Western Kentucky University, to create an Energy Development Authority and to increase offerings of additional Advanced Placement mathematics and science classes. These changes were not approved by the House, so the bill did not become law.

The EQC is currently reviewing the version of House Bill 5, as it read on March 27, 2007. If this bill is reintroduced into the appropriate legislative committee during the January 2007 session, the EQC will review the new language and determine an appropriate course of action.

The Environmental Quality Commission is pleased to address these concerns of citizens of the commonwealth. Please contact us with additional questions.

Sincerely,



Scott Smith, Chair  
Environmental Quality Commission

Cc: Teresa J. Hill, Secretary, Environmental and Public Protection Cabinet  
Lloyd Cress, Deputy Secretary, Environmental and Public Protection Cabinet  
Susan Bush, Commissioner, Department for Natural Resources  
Cheryl Taylor, Commissioner, Department for Environmental Protection  
Mark York, Executive Director, Office of Communications and Public Outreach